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(6) [REDACTED]
Bechtelsville, PA 19505

November 23, 2004

Docket Coordinator, Headquarters; U.S.
Environmental Protection Agency; CERCLA Docket Office
1200 Pennsylvania Avenue NW., Washington, DC 20460

Dear Sir or Madam:

I am writing to you regarding SFUND-2004-0012: Safety Light Corporation, Pennsylvania. I am not a potentially responsible party, or an affected neighbor of the site, but a concerned citizen.

The NRC has asked for EPA assistance in decontaminating and decommissioning the Safety Light Corporation by adding the site to the NPL; based on current calculations Safety Light cannot finance the clean-up of the site, and the site received an HRS score of 70.71 in 2003. Combined with the current soil and water contamination at the former U.S. Radium site, it is absolutely vital to the health and well-being of the surrounding community and environment to add SLC to the NPL.

However, according to 300.415(b)(2)(V), a Removal Action is warranted immediately.

Sincerely,

[REDACTED]

I. History of contamination at SLC

In the early 1940s, U.S. Radium bought a site near Bloomsburg, Pennsylvania, to produce illuminated watch dials and glow-in-the-dark markers for the navy, as well as a radionucleotide processing facility. The site is located on two acres and is surrounded by residential areas on the east and west, the Susquehanna River on the south and a road on the northern border.¹ Processes on site included the use of radium-226, strontium-90, cesium-137, americium and tritium.²

Disposal of these wastes was most commonly on-site. Lab glassware that was contaminated with radioactive material used on-site was buried on-site. Liquid wastes were permitted to evaporate and the remaining sludge was transported off site. An abandoned canal was used to bury low-level radioactive wastes. Effluent was also discharged to the canal that was filled with water from the Susquehanna River. After dilution, this water contaminated with wastes from the plant was released back to the Susquehanna.³ Two underground silos were fabricated of metal with a concrete lid and solid wastes were also disposed here, which included painted watch dials. Two lagoons were used from 1948-1954 for the discharge of the waste from plant processes.³

In 1980, the USR property became known as Safety Light Corporation and studies began to determine contamination on site. In a 1981 survey by the NRC, concentrations of radium-226 were found at two times background concentration and tritium concentration three times the background concentration. The NRC also located three monitor wells contaminated with strontium-90 between 4.77×10^{-7} and

6.21×10^{-5} pCi/ml while the NRC recommendation is 3×10^{-7} pCi/ml in unrestricted areas.³ Nine additional monitoring wells were added to the monitor wells already in use at SLC in 1990. The wells demonstrated an increase of tritium contamination on the entire site. Again in 1994, tritium concentrations were cause for concern at the Safety Light site. EPA Region 3 found contamination of tritium in monitoring wells on-site as well as off-site residential wells.

Although studies regarding contamination of the Safety Light Corporation began in the early 1980s, the SLC was aware of the damage their releases caused long before 1980. In 1991, the NUS Corporation was asked to prepare documentation for the EPA regarding the SLC. This included "numerous environmental and occupational safety/health violation citations issued to the company between 1957 and 1988 ⁴."

In light of the studies conducted and after review, the EPA Region III determined that "there is a treat of imminent and substantial endangerment to the public health or welfare or the environment" at the Safety Light Corporation, in 2002.⁵

II. Immediate actions necessary at SLC

The Safety Light Corporation, Bloomsburg, Pennsylvania, received an HRS score of 70.71 in 2003.³ Scores over 28.5 merit the listing of a site on the NPL. Hazardous release has already been recorded at the site and for this reason alone it is vital that SLC be added to the NPL. However, a removal action should occur immediately.

According to 300.415(b)(2)(V), "Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released" deem a removal action appropriate.⁶ In 1972, the floodwaters of Tropical Storm Agnes destroyed an evaporator and two lagoons on the site.⁷ The evaporator building was submerged under roughly 10 feet of water and it is estimated that 500 gallons of tritium contaminated water was released to the Susquehanna River.³ Similarly, the lagoons were flushed of the liquid wastes they contained which were also released to the river.

III. Threat of radioactive waste release

In 2000, the contents of the two underground silos were removed and repackaged on-site for eventual, proper, disposal off-site.² They contained watch dials, used laboratory glassware and other radioactive waste in the 1950s. Currently, there are 176, 55-gallon drums and a number of containers placed 200 feet from the Susquehanna River and 30 feet above the low level of the river.⁴ This area is located within the 100 year flood plain making it possible that another flood, with the magnitude of Agnes, could cause release of the hazardous waste stored near the river.⁴ The immediate removal of this waste is necessary to decrease the potential for release of radio nucleotides into the Susquehanna River until remediation is complete and the site is returned to unrestricted use.

The two underground silos were constructed of metal with concrete floors and lids. When the silos were emptied in 2000, it was found that re-crystallization was

occurring inside of the silo; a sign that water had been present at one time.³ It was also noted that the metal bodies of the silos were deteriorating; allowing for groundwater to travel through the radioactive waste inside. No apparent liner had been installed to prevent this type of release to the groundwater.⁴

The property surrounding the Safety Light Corporation has been the site of multiple disposal areas since its development in the early 1940s. In 1990, when SLC evaluated soils in collaboration with the NRC, several buried magnetic objects were found to be located on the eastern edge of the property. In 1995, a radar survey of the land detected metallic objects similar in size to radium dials located in a dump on the western property boundary.³ It was determined that these small, metallic objects were located close to the surface. These sites are known as the east and west dump sites. Along with the canal, they comprise a majority of the known disposal areas. "Radioactive wastes also were disposed of in a dry well. However, the location of the dry well is not known³."

In 1979, these disposal sights flooded, allowing contamination from the soil to enter the Susquehanna River. With no system to manage runoff in place, it is possible for a severe flood to cause contamination of the river again.⁴

The east lagoon, which had been used for holding process waste from the plant between 1948 and 1954, was evaluated by the NRC in 2001.³ At this time, an oily patch was noted in the center and "an 8 or 10-inch outfall was observed³."

In 1972, the lagoon released its contaminants during Tropical Storm Agnes. Since this area is located within the 100 year flood plain and the lagoon has no liner

or runoff system to mitigate groundwater contamination, it is possible that another severe flood could again release the radiological contaminants of the lagoon.⁴

IV. Actual contamination at SLC

With assistance from the ATSDR, the PADOH created a Health Consultation for contamination at SLC in 2000. It found contamination of tritium (72,200 pCi/L), strontium-90 (62,100 pCi/L), and radium-226 (9.1 pCi/L) over the maximum contaminant level for radionuclides in public water. The MCL for each of these contaminants is 20,000 pCi/L, 8 pCi/L, and 5 pCi/L, respectively. The soil at SLC is contaminated with radium-226 (152-3335 pCi/g), americium-241 (23-72 pCi/g), and cesium-137 (12-7265 pCi/g) over the MCL. The MCL for these soil contaminants is 5 pCi/g, 12 pCi/g and 12 pCi/g, respectively.⁴

V. Level I Targets- children

On the east and west the site is surrounded by residential areas. At 0.25 miles from the site, the nearest private residential well is located.² Level I targets of groundwater contamination are located within 4 miles of the site. There are twenty-eight wells in this area serving 3,287 individuals.²

Should another severe flood occur, releasing the waste, children in the level I target area would be most at risk. According to the ATSDR HR, "children are more likely to be exposed to certain media [contaminated soil] because they play

outdoors...they can breathe dust, soil and vapors close to the ground...and childhood exposure results in higher doses of chemicals per body weight ⁴." If childhood contact with wastes, such as those stored on site at SLC, occurs during "critical growth stages," it is possible the children could "sustain permanent damage ⁴."

VI. Other US Radium Sites on the NPL

Another site, also owned by US Radium, existed as a radium processing plant in Orange, New Jersey. Similar to the SLC site, this plant produced glow-in-the-dark paint that was used for watch dial faces. Also similar to the SLC site, waste was disposed both on and off-site, leading to extensive soil contamination of radium-226 and the ionizing radiation that it emits.⁸

In 1983, this US Radium site was added to the NPL and an RI/FS study was conducted to determine the extent of contamination on the site as well as the residential properties surrounding the site.⁸ Over 240 properties have been determined to have heightened levels of radon contamination.⁹

These families have often been relocated while mitigation and shielding systems have been installed in their homes to reduce harmful exposure to the radon gas that exists as radium-226 decays. The value of homes in this area has significantly declined since it was determined that many were built using radium contaminated soil from the USR site. In some cases, homes have needed completely replaced floors and walls to eliminate contamination.⁹

The actual cost of the clean up, which has been almost exclusively on the residential properties, is approximately \$103 million, as of 2002.⁹

Cleanup costs at the Safety Light site do not have to reach this extent, as they have in the US Radium site in New Jersey. To ensure cost minimization, the drums placed near the Susquehanna River in 2000, for future disposal should be removed immediately. The consequences of not removing the drums include further contamination of the soil in the event of a significant flood which ultimately increases the overall cleanup costs.

Aside from the costs associated with cleanup, there is also a significant inconvenience to the homeowners surrounding the SLC, should a considerable amount of cleanup be required at their home, as was the case in the homes surrounding the US Radium site in New Jersey.

VII. NRC plans for D&D at SLC

On November 4, 1998, a D & D or a decontamination and decommissioning plan was prepared for the NRC.² The aim is to reduce levels of contamination on the SLC site to below levels set by NRC guidelines. Once no risk is associated with public health and the environment, the site will be returned to unrestricted use. Main radiological contaminants suspected were listed on the D & D and include cesium-137, radium-226, americium-241, cobalt-60, strontium-90, polonium-210, and tritium.² More than 91,200 cubic feet of waste (dry, radioactive) is expected to be removed from this site under the D & D plan.² Total cost is estimated at \$13.7 million, though

a more recent D & D suggests the actual cost may approach \$23 million, though this still will not cover groundwater remediation.²

The site has been undergoing decommissioning by the NRC. Current cost estimates to return the site to unrestricted use are conservatively set at \$13.7 million dollars. The largest portion of these costs (\$10.7 million) is associated with the removal of hazardous and radioactive wastes from the site. Since the NRC is unable to perform the cleanup necessary to return the site to unrestricted use and the company is unable to finance the cleanup, the NRC has requested that the Safety Light Co., be added to the NPL for site cleanup.¹

VIII. Conclusion

Residents surrounding the Safety Light Corporation site deserve a safe home for their children on a property that will not decrease in value. They should not have to live in fear that a storm (similar to those multiple, severe storms experienced this summer, 2004) will wash radioactive contaminants into their back yard. They should not be concerned with the water they are drinking from their private wells. For their safety, well-being and piece of mind, a removal action is necessary immediately for the radioactive waste stored near the Susquehanna River. The site should then be added to the NPL where the SLC and the NRC plan of decontamination and decommissioning can take place, to restore the site to unrestricted use.

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